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10/807,530	03/23/2004	Alan T. Parsons	C0037	3437
21495	7590	12/14/2004	EXAMINER	
CORNING CABLE SYSTEMS LLC			PENG, CHARLIE YU	
P O BOX 489			ART UNIT	PAPER NUMBER
HICKORY, NC 28603			2883	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/807,530	PARSONS, ALAN T.
	<b>Examiner</b>	<b>Art Unit</b>
	Charlie Peng	2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-42 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-11,13-18,20-24,28-31,33-35,37 and 39-42 is/are rejected.
- 7) Claim(s) 12,19,25-27,32,36 and 38 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: ____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Drawings***

1. The drawing Fig. 4 is objected to as failing to comply with 37 CFR§1.84(p)(4) because reference character "40" has been used to designate two different parts. The drawings Figures 4 and 9 are objected to as failing to comply with 37 CFR§1.84(p)(5) because it does not include the following reference sign(s) mentioned in the description: 15, 19a, 43, 45, and 130.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 10, 13-15, 23, 28, 29, and 39 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,763,983 to Keith in view of U.S. Patent 5,875,526 to Yamaguchi. Field teaches a plurality of optical fibers (14, waveguides) disposed within a tube (20), and a dry insert made of cushioning yarn (16, continuous strand composed of natural or man-made filaments) wrapped around by a rubber tape (18). Keith does not teach the loops of filaments on the tape, where the applicant essentially duplicates a female member of a hook-and-loop fastener. Yamaguchi teaches that cushion function is “integrally provided by the female member of the hook-and-loop fastener”. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the embodiment taught by Yamaguchi in the tube. The motivation would be to provide adequate cushion functions for the optical fibers residing within. With reference to claims 1, 10, 13, and 14 and a specific range of optical attenuation of less than 0.3 dB/km, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to prevent substantial compression of the optical fiber and avoid optical attenuation. (See conclusion for relevant art regarding compression and optical attenuation).

3. With reference to claims 15, 23, and 28 and a specific range of percentage of compression of the dry insert, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been

held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to create a substantially large enough coefficient of friction and subsequently friction force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not easily pulled out of its protective elements.

4. With reference to claims 29 and 39 and a specific range of pull-out force, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be that a substantially large enough pull-out force between the optical waveguides and the dry insert (and indirectly the tube) does not allow the optical waveguides to be easily pulled out of its protective elements.

5. Claims 2 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1 above, and further in view of U.S. Patent 5,621,841 to Field. Keith and Yamaguchi disclose the claimed invention except for a water-swellable material. Field teaches that yarns (25) formed of water-swellable material can help keep water from penetrating into an optical cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use yarns/filaments of water-swellable property to replace those yarns that are not water-swellable in constructing the optical tube. The motivation would be that such method

accomplishes two purposes simultaneously: preventing water penetration and cushioning, thus reducing the overall size and cost of the optical tube.

6. Claim 3, 7, and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1. Keith and Yamaguchi disclose the claimed invention except for specific ranges of percentage of compression of the dry insert and a pull-out force between the dry insert and the tube, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to create a substantially large enough coefficient of friction and subsequently pull-out force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not easily removed from its protective elements.

7. Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith, and Yamaguchi as applied to claim 3 above, and further in view of Field. Keith and Yamaguchi disclose the claimed invention except for a water-swellable material. Field teaches that yarns (25) formed of water-swellable material can help keep water from penetrating into an optical cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use yarns/filaments of water-swellable property to replace those yarns that are not water-swellable in constructing the optical tube. The motivation would be that such method accomplishes two purposes

simultaneously: preventing water penetration and cushioning, thus reducing the overall size and cost of the optical tube.

8. Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1. Keith and Yamaguchi disclose the claimed invention except for a specific range of percentage of compression of the dry insert, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to limit the compression force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not overly compressed, resulting in undesirable optical attenuation.

9. Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1. Keith and Yamaguchi disclose the claimed invention except for the maximum height of the dry insert. It would have been an obvious matter of design choice to limit the height of the dry insert since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). The motivation would be to limit the size of the tube and subsequently the overall fiber optic assembly made of such tubes.

10. Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1. Keith and Yamaguchi disclose the claimed

invention except for placing filaments on both side of the tape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a second filament in constructing the optical tube, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8. The motivation would be to provide additional cushion to the optical fibers. (See conclusion for relevant art regarding dual-sided cushion.)

11. Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 15. Keith and Yamaguchi disclose the claimed invention except for a specific range of percentage of compression of the dry insert that should not be exceeded, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to limit the compression force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not overly compressed, resulting in undesirable optical attenuation.

12. Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 15. Keith and Yamaguchi disclose the claimed invention except for a tape made of foam, which is widely available, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the foam tape as part of the dry insert. The motivation would be that physical

properties of foam allow further cushioning function for the dry insert in addition to the filament loops.

13. Claims 18 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 1 above, and further in view of U.S. Patent 4,815,813 to Arroyo et al. Keith and Yamaguchi disclose the claimed invention except for a water-swellable tape. Field teaches that it is known in the art many commercially available cables include a water-swellable tape to keep water from penetrating into an optical cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use tape of water-swellable property in constructing the optical tube. The motivation would be that such method accomplishes two purposes simultaneously: preventing water penetration and securing the filaments within, thus reducing the overall cost of the optical tube.

14. Claim 20 and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 15. Keith and Yamaguchi disclose the claimed invention except for a specific range of a pull-out force between the dry insert and the tube, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to create a substantially large enough pull-out force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not easily removed from its protective elements.

15. Claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 15. Keith and Yamaguchi disclose the claimed invention except for the maximum height of the dry insert. It would have been an obvious matter of design choice to limit the height of the dry insert since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). The motivation would be to limit the size of the tube and subsequently the overall fiber optic assembly made of such tubes.

16. Claim 30 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 29. Keith and Yamaguchi disclose the claimed invention except for a specific range of a pull-out force between the dry insert and the tube, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to create a substantially large enough pull-out force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not easily removed from its protective elements.

17. Claim 31 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 30 above, and further in view of U.S. Patent 4,815,813 to Arroyo et al. Keith and Yamaguchi disclose the claimed invention except for a water-swellable substance. Field teaches that it is known in the art many

commercially available cables include a water-swellable tape to keep water from penetrating into an optical cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use tape of water-swellable property in constructing the optical tube. The motivation would be that such method accomplishes two purposes simultaneously: preventing water penetration and securing the filaments within, thus reducing the overall cost of the optical tube.

18. Claim 33 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 29. Keith and Yamaguchi disclose the claimed invention except for specific ranges of percentage of compression of the dry insert and a pull-out force between the dry insert and the tube, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to create a substantially large enough coefficient of friction and subsequently pull-out force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not easily removed from its protective elements.

19. Claim 34 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 29. Keith and Yamaguchi disclose the claimed invention except for a specific range of percentage of compression of the dry insert, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine such a range, since it has been held that where the

general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would be to limit the compression force between the optical waveguides and the dry insert (and indirectly the tube) so that the optical waveguides is not overly compressed, resulting in undesirable optical attenuation.

20. Claim 35 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 29 above, and further in view of U.S. Patent 4,815,813 to Arroyo et al. Keith and Yamaguchi disclose the claimed invention except for a water-swellable tape. Field teaches that it is known in the art many commercially available cables include a water-swellable tape to keep water from penetrating into an optical cable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use tape of water-swellable property in constructing the optical tube. The motivation would be that such method accomplishes two purposes simultaneously: preventing water penetration and securing the filaments within, thus reducing the overall cost of the optical tube.

21. Claim 37 is rejected under 35 U.S.C. §103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 29. Keith and Yamaguchi disclose the claimed invention except for the maximum height of the dry insert. It would have been an obvious matter of design choice to limit the height of the dry insert since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the

art. In re Rose, 105 USPQ 237 (CCPA 1955). The motivation would be to limit the size of the tube and subsequently the overall fiber optic assembly made of such tubes.

22. Claims 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith and Yamaguchi as applied to claims 1 and 2. Claims 40 and 42 teach the method by which the apparatus disclosed in claims 1 and 2 is made. The method is inherent to the apparatus and also considered unpatentable because all limitations have been met by prior art and the applicant merely present the most logical way of constructing the optical tube.

23. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keith and Yamaguchi as applied to claim 40 above. Keith and Yamaguchi disclose the claimed invention except for a cable jacket around the outside of the optical tube assembly. It is well known in the art to use a cable jacket as claimed by the applicant, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a cable jacket. The motivation would be to provide an extra layer of protection to the optical fiber or act as an enclosing element for anything else placed outside the optical tube, such as a strength member.

#### ***Allowable Subject Matter***

24. Claims 12, 19, 25-27, 32, 36, and 38 objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Referring to claims 19, 25 and 36, it is the examiner's opinion that prior art taken in combination cannot

render the claims obvious to one of ordinary skill in the art. Further referring to claims 12, 26, 27, 32, and 38, their base claims, although considered unpatentable, are different from other inventions known to the examiner. Since the dependent claims are essentially solutions to the particular problems caused by the base claims' designs (uneven compression), the dependent claims cannot be anticipated or obvious to one of ordinary skill in the art.

### ***Conclusion***

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,552,432 to Anderson et al.; U.S. Patent 5,507,681 to Smith et al.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 8:30 am - 5 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2883

27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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